UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/965,592	09/26/2001	Gaurang K. Shah	062891.0550	3496

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EXAMINER
OSMAN, RAMY M

ART UNIT	PAPER NUMBER
2157	

DATE MAILED: 05/19/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 10/03)

	Application No.	Applicant(s)
Office Action Summary	09/965,592	SHAH ET AL.
	Examiner	Art Unit	
	Ramy M. Osman	2157	

-- *The MAILING DATE of this communication appears on the cover sheet with the correspondence address* --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>28 February 2005</u>.

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) <u>1-20</u> is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) <u>1-20</u> is/are rejected.

7)☒ Claim(s) <u>3 and 11</u> is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All   b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
    Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____ .

5)☐ Notice of Informal Patent Application (PTO-152)

6)☐ Other: _____.

DETAILED ACTION

Status of Claims

1.   This action is responsive to the amendment filed on February, 28, 2005. Applicant

amended claims 1,3-7,9-13 and 17. Claims 1-20 are pending.

Claim Objections

2.   Claim 3 objected to because of the following informalities: On line 7, change "the port

number" to "the private port number".

3.   Claim 11 objected to: On line 6, change "gateway;" to "gateway; and".

        Appropriate correction is required.

Claim Rejections - 35 USC § 112

4.   The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making
> and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it
> pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode
> contemplated by the inventor of carrying out his invention.

5.   Claims 1-20 rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the

enablement requirement. The claim(s) contains subject matter which was not described in the

specification in such a way as to enable one skilled in the art to which it pertains, or with which

it is most nearly connected, to make and/or use the invention.

        Page 9 lines 4-10 of the specification is not enabling. Line 7 is unclear as to whether the

load balancer is providing its own private port number to the client or if the load balancer is

providing the gateways private port number to the client. Line 4 fails to detail exactly how the

gateway is assigned a private port number. Does it generate one itself and send it to the load

balancer, or does the load balancer generate one for the gateway. Line 14 mentions a "defined

port number" and how it relates to the private port number. But it is unclear if the defined port

number of line 14 is the same as the actual port number of claim 3.

6.   The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the
> subject matter which the applicant regards as his invention.

7.   The term "private port number" in claims 1-20 is a relative term which renders the claim

indefinite. The term "private port number" is not defined by the claim, the specification does not

provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would

not be reasonably apprised of the scope of the invention.

        Applicant fails to distinguish the difference between an actual port number (as mentioned

in claim 3) and a private port number (as mentioned in claims 2-6). Page 9 of the specification

merely states on line 4 that each gateway is assigned a private port number. However, this is not

enabling because applicant failed to define the meaning of a private port number to begin with.

Does applicant mean assigned port numbers, otherwise known as "well-known port numbers"

with the range 0-1023 (as defined by IANA: Internet Assigned Numbers Authority)> Or, by

private port number, does applicant mean "registered port numbers" with the range of 1024-

49151. Or does applicant mean "unregistered/dynamic port numbers" with the range 49125-

65535. Or does applicant mean "ephemeral port numbers".

Claim Rejections - 35 USC § 102

8.   The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the

basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed
in the United States before the invention by the applicant for patent or (2) a patent granted on an application for
patent by another filed in the United States before the invention by the applicant for patent, except that an
international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this
subsection of an application filed in the United States only if the international application designated the United
States and was published under Article 21(2) of such treaty in the English language.

9.   **Claims 1,7-13,15-17 and 19 are rejected under 35 U.S.C. 102(e) as being anticipated**

by Brendel et al. (U.S. Patent No. 5,774,660) in view of Swildens et al (US Patent No

6,754,706).

10.   In reference to claim 1, Brendel teaches a method for re-directing a client session,

comprising:

receiving a request from a client terminal at a load balancer (column 2 lines 17-35 and

column 4 lines 48-60, Brendel teaches a load balancing router);

selecting one of a plurality of gateways being managed by the load balancer to process

the request (column 4 lines 51-58);

sending a re-direct message to the client terminal from the load balancer, the re-direct

message including information identifying the selected gateway (column 3 lines 33-38 and

column 4 lines 41-65, Brendel teaches a client browser (10) receiving redirection to a single IP

address (column 4 line 45) from a DNS server regarding an identified web site. The client caches

this IP address, which from the clients perspective inherently represents a selected server.)

Brendel fails to teach where the DNS server and the load balancer are located on the same

device. However, Swildens teaches a load balancing DNS server which determines an available

content server to service a user request. The determined content server is returned to the user for

load balancing purposes (column 2 lines 50-60, column 4 lines 40-50 and column 5 lines 2-12).

It would have been obvious for one of ordinary skill in the art to modify Brendel by

returning the determined content server to the user for the purpose of optimizing network traffic

through load balancing.

11.   In reference to claim 13, Brendel teaches an apparatus for re-directing a client session,

comprising:

means for receiving a request from a client terminal (column 2 lines 17-35 and column 4

lines 48-60, Brendel teaches a load balancing router);

means for selecting one of a plurality of gateways to process the request (column 4 lines

51-58);

means for sending a re-direct message to the client terminal, the re-direct message

including information identifying the selected gateway (column 3 lines 33-38 and column 4 lines

41-65, Brendel teaches a client browser (10) receiving redirection to a single IP address (column

4 line 45) from a DNS server regarding an identified web site. The client caches this IP address,

which from the clients perspective inherently represents a selected server.) Brendel fails to teach

where the DNS server and the load balancer are located on the same device. However, Swildens

teaches a load balancing DNS server which determines an available content server to service a

user request. The determined content server is returned to the user for load balancing purposes

(column 2 lines 50-60, column 4 lines 40-50 and column 5 lines 2-12).

It would have been obvious for one of ordinary skill in the art to modify Brendel by

returning the determined content server to the user for the purpose of optimizing network traffic

through load balancing.

12.   In reference to claim 7, Brendel teaches the method of Claim 1, further comprising:

        maintaining an association between the client terminal and the selected gateway at the

load balancer (column 4 lines 40-65).

13.   In reference to claim 8, Brendel teaches the method of Claim 1, wherein the information

identifying the selected gateway includes an Internet Protocol address of the selected gateway

(column 4 lines 40-65 and column 9 lines 15-40).

14.   In reference to claim 9, Brendel teaches the method of Claim 8, further comprising:

        receiving at the load balancer from the client terminal, a subsequent request associated

with the re-direct message, the subsequent request including the Internet Protocol address of the

selected gateway (column 4 lines 40-65 and column 9 lines 15-40).

15.   In reference to claim 10, Brendel teaches the method of Claim 9, further comprising:

        forwarding the subsequent request to the selected gateway from the load balancer, the

subsequent request including the Internet Protocol address of the selected gateway (column 4

lines 40-65 and column 9 lines 15-40).

16.   In reference to claim 11, Brendel teaches the method of Claim 10, further comprising:

        receiving a response to the subsequent request from the selected gateway, the response

including the Internet Protocol address of the selected gateway (column 4 lines 40-65 and

column 9 lines 15-40);

        forwarding the response to the client terminal (column 4 lines 55-65).

17.   In reference to claim 12, Brendel teaches the method of Claim 1, further comprising:

maintaining an association between the client terminal and the selected gateway (column

4 lines 40-55 and column 9 lines 15-40).

18.   In reference to claim 15, Brendel teaches the method of Claim 13, wherein the

information associated with the selected gateway is an Internet Protocol address of the selected

gateway (column 4 lines 40-65 and column 9 lines 15-40).

19.   In reference to claim 16, Brendel teaches the apparatus of Claim 13, further comprising:

means for maintaining an association between the client terminal and the selected gateway

(column 4 lines 40-55 and column 9 lines 15-40).

20.   In reference to claim 17, Brendel teaches an apparatus for re-directing a client session,

comprising:

a load balancer operable to receive an initial request from a client terminal (column 2

lines 17-35 and column 4 lines 48-60, Brendel teaches a load balancing router), the load balancer

operable to select one of a plurality of gateways to process the request (column 4 lines 51-58),

the load balancer operable to send a re-direct message to the client terminal in response to the

request, re-direct message including information identifying the selected gateway (column 3

lines 33-38 and column 4 lines 41-65, Brendel teaches a client browser (10) receiving redirection

to a single IP address (column 4 line 45) from a DNS server regarding an identified web site. The

client caches this IP address, which from the clients perspective inherently represents a selected

server.) Brendel fails to teach where the DNS server and the load balancer are located on the

same device. However, Swildens teaches a load balancing DNS server which determines an

available content server to service a user request. The determined content server is returned to

the user for load balancing purposes (column 2 lines 50-60, column 4 lines 40-50 and column 5 lines 2-12).

It would have been obvious for one of ordinary skill in the art to modify Brendel by returning the determined content server to the user for the purpose of optimizing network traffic through load balancing.

21.   In reference to claim 19, Brendel teaches the apparatus of Claim 17, wherein the load balancer maintains an association between the client terminal and the selected gateway (column 4 lines 40-55 and column 9 lines 15-40).

22.   **Claims 2-6,14,18 and 20 are rejected under 35 U.S.C. 102(e) as being anticipated by Brendel et al. (U.S. Patent No. 5,774,660) in view of Swildens et al (US Patent No 6,754,706) in further view of Kitai (US Patent No 6,404,766).**

23.   In reference to claim 2, Brendel teaches the method of Claim 1. Brendel fails to teach wherein the information identifying the selected gateway may include a private port number associated with the selected gateway. However, Kitai teaches a client communicating with a local server. The local server has a port number #n-c-rs (equivalent to a private port number), intermediate a remote server (equivalent to applicants selected gateway), and which is used for communication from the client to the local server, for the purpose of efficient flow control (column 2 lines 36-67, column 5 lines 40-44 and column 5 line 65 – column 6 line 10).

It would have been obvious for one of ordinary skill in the art to modify Brendel by including a port number as per the teachings of Kitai for the purpose of providing a gateway

between a client and a network that will provide flow control, congestion control and port/address translation.

24.   In reference to claim 3, Brendel teaches the method of Claim 2, further comprising:

receiving at the load balancer from the client terminal a subsequent request associated with the re-direct message, the subsequent request including the private port number associated with the selected gateway (column 4 lines 59-64 and column 9 lines 15-40);

Brendel teaches address translation (column 4 lines 59-64). Brendel fails to explicitly teach translating at the load balancer the port number associated with the selected gateway to an actual port number of the selected gateway. However, Kitai teaches that the local server converts from port number #n-c-rs, on which it receives a request packet from the client, to the port number #n-s-rs, on which it forwards the packet to the remote server (i.e. the selected gateway) (see column 2 lines 36-67, column 5 lines 40-44 and column 5 line 65 – column 6 line 10).

It would have been obvious for one of ordinary skill in the art to modify Brendel by including a port number for port translation as per the teachings of Kitai for the purpose of providing a gateway between a client and a network that will provide flow control, congestion control and port/address translation.

25.   In reference to claim 4, Brendel teaches the method of Claim 3 above, further comprising: forwarding the subsequent request to the selected gateway, the subsequent request including the actual port number of the selected gateway (Kitai, column 2 lines 36-67, column 5 lines 40-44 and column 5 line 65 – column 6 line 10).

26.   In reference to claim 5, Brendel teaches the method of Claim 4, further comprising:

receiving a response to the subsequent request from the selected gateway, the response

including the actual port number of the selected gateway; translating the actual port number of

the selected gateway to the private port number associated with the selected gateway (Kitai,

column 2 lines 36-67, column 5 lines 40-44 and column 5 line 65 – column 6 line 10).

27.   In reference to claim 6, Brendel teaches the method of Claim 5, further comprising:

forwarding the response to the client terminal, the response including the private port

number associated with the selected gateway (Kitai, column 5 lines 40-44 and column 5 line 65 –

column 6 line 10).

28.   In reference to claim 14, Brendel teaches the apparatus of Claim 13. Brendel fails to

teach wherein the information identifying the selected gateway may include a private port

number associated with the selected gateway. However, Kitai teaches a client communicating

with a local server. The local server has a port number #n-c-rs (equivalent to a private port

number), intermediate a remote server (equivalent to applicants selected gateway), and which is

used for communication from the client to the local server, for the purpose of efficient flow

control (column 2 lines 36-67, column 5 lines 40-44 and column 5 line 65 – column 6 line 10).

It would have been obvious for one of ordinary skill in the art to modify Brendel by

including a port number as per the teachings of Kitai for the purpose of providing a gateway

between a client and a network that will provide flow control, congestion control and

port/address translation.

29.   In reference to claim 18, Brendel teaches the apparatus of Claim 17, wherein the load

balancer receives a subsequent request from the client terminal, the subsequent request including

the information identifying the selected gateway, the load balancer operable to forward the

request to the selected gateway (Kitai, column 2 lines 36-67, column 5 lines 40-44 and column 5

line 65 – column 6 line 10).

30.   In reference to claim 20, Brendel teaches the apparatus of Claim 17, wherein the

information identifying the selected gateway includes one of a private port number associated

with the selected gateway and an Internet Protocol address of the selected gateway (Kitai,

column 2 lines 36-67, column 5 lines 40-44 and column 5 line 65 – column 6 line 10).

Response to Arguments

31.   Applicant's arguments with respect to claims 1-20 have been considered but are moot in

view of the new ground(s) of rejection.

Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Ramy M. Osman whose telephone number is (571) 272-4008.

The examiner can normally be reached on M-F 9-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Ario Etienne can be reached on (571) 272-4001. The fax phone number for the

organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent

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system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR

system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

RMO
May 12, 2005

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